

# CURRENT LITERATURE

## NOTES FOR STUDENTS

**Weather and fruitfulness.**—DORSEY<sup>1</sup> has done much to place on an experimental basis a subject concerning which there have been many erroneous popular beliefs. In so far as it affects pollination and fertilization, he divides weather into 4 components, rain, temperature, wind, and sunshine. Wind and sunshine in themselves are of minor importance. Rain prevents the dehiscence of the anthers, or causes them to close if they have already dehisced. While this is beneficial in retaining much of the pollen in the anther during a rain, the pollen is not available for pollination during this time. Contrary to popular belief, rain does not cause the pollen to burst, and although the stigmatic fluid may be diluted thereby, this does not seem to be injurious. Some pollen may be washed from the stigma by rain, but an abundance is left for fertilization. Rain does not injure the viability of pollen. Low temperatures retard the growth of the pollen tube, but do not seem to cause delay in the abscission of the style. The stigma is receptive for 4-6 days and then rapidly disintegrates. The style abscisses 8-12 days after bloom. A delay in pollination due to rain, or slow pollen tube growth due to low temperatures, may therefore eliminate fertilization by preventing the pollen tube from passing the point of abscission before the abscission of the style. Applying this analysis of weather to certain years of fruitfulness and to certain other years of non-fruitfulness, it is found that each year there is a definite correlation between the weather and the setting of fruit. The experiments are thus given a practical test.—S. V. EATON.

**Determination of biological fluids.**—Duggar and Dodge,<sup>2</sup> after discussing some of the difficulties encountered in examining biological fluids, particularly colored plant juices, by the indicator method of H ion determination, describe a new method which they have found satisfactory for the examination of colored plant juices. "The method consisted in simply arranging for each side of the colorimeter a pair of cups slipping to a certain depth one into the other. The method of procedure is then as follows. For the lefthand

<sup>1</sup> DORSEY, M. J., Relation of weather to fruitfulness in the plum. Jour. Agric. Res. 17:103-126. pls. 13-15. fig. 1. 1919.

<sup>2</sup> DUGGAR, B. M., and DODGE, C. W., The use of the colorimeter in the indicator method of H ion determination with biological fluids. Ann. Mo. Bot. Gard. 6:61-70. 1919.